MUNICIPAL SETTING DESIGNATION

900/910 Gemini Avenue

Webster, Texas

October 2, 2012

What is an MSD?

- A deed restriction only on the subject property ("Designated Property").
- Restricts the use of groundwater from the Designated Property for potable purposes.
- Does not affect any off-Site properties.

What is the Process?

- Application and Support from the City
- Seek support from municipalities within .5 miles
- Seek support from Retail Public Utilities within 5 miles
- Notice to well owners within 5 miles
- Application to TCEQ
- Certification by TCEQ

What Does the MSD Do?

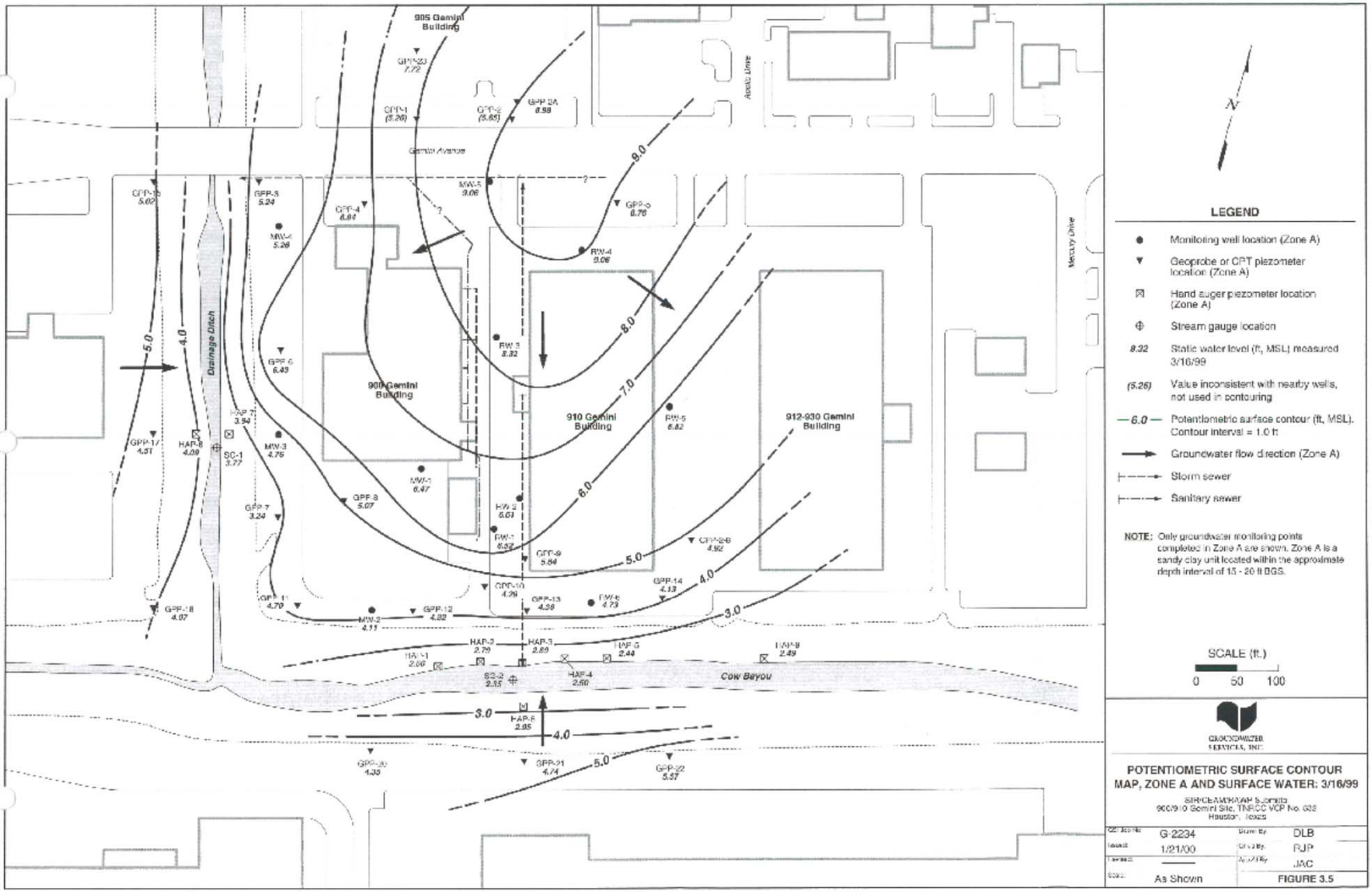
- Prevents groundwater from being used for potable purposes.
- Recognizes that shallow groundwater in most urban settings is not used.
- Eliminates the need to cleanup groundwater to potable standards.

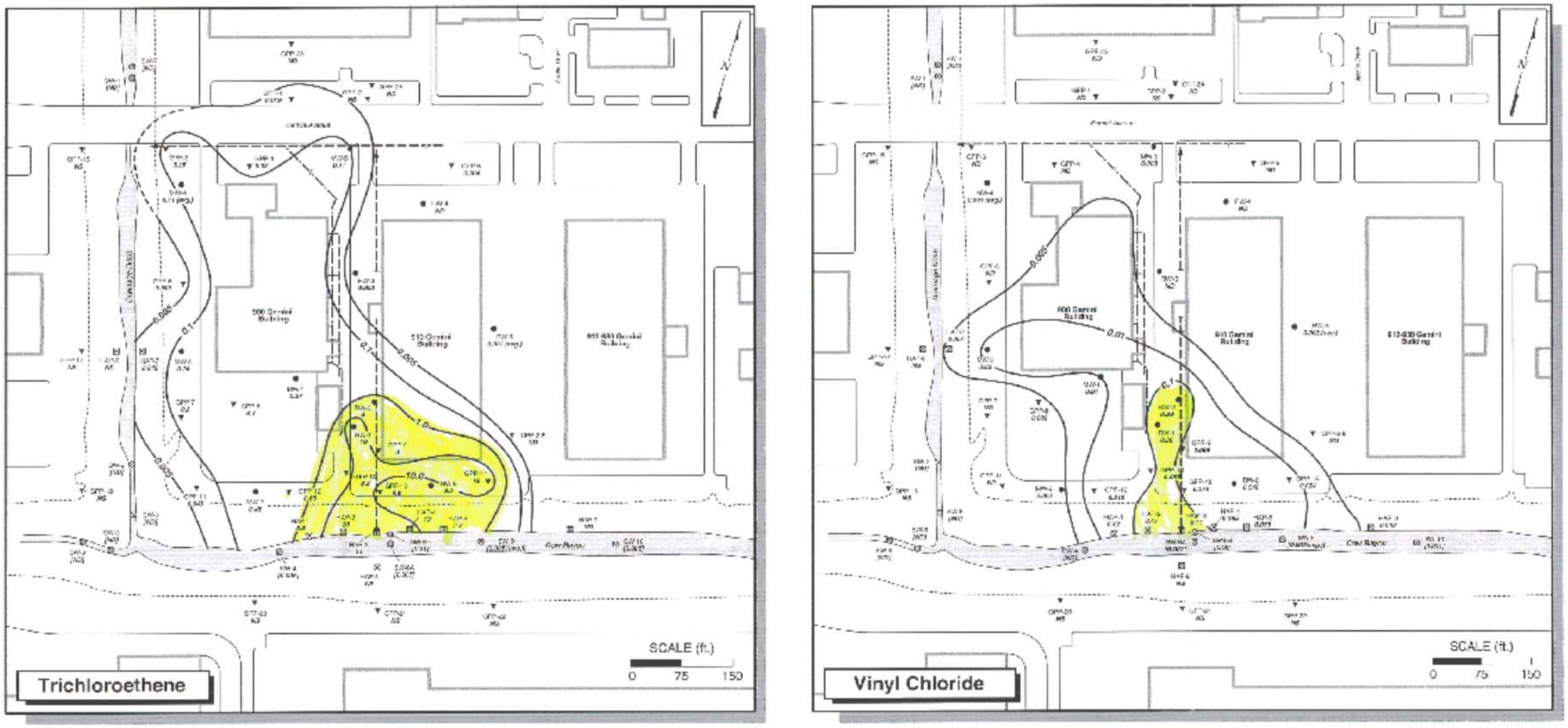
Site Description

- Two adjoining structures developed ~1965
- 900 Gemini formerly contained an analytical laboratory
- Total area ~5.5 acres
- Drainage ditches to the west and south

Summary of Environmental Conditions

- Release first discovered in 1993, suspected from leaking sewer line.
- Multiple investigations from 1993-2000
- Uppermost water-bearing units affected by VOCs
  - Trichloroethylene (TCE) and vinyl chloride (VC)
- Water below ~40 feet unaffected
- Long term monitoring has shown that natural attenuation has not reduced VOC levels sufficiently
- Concentrations in surface water within acceptable levels.


905 Gemini Building
GPP-23 7.72
GPP-1 (5.26)
GPP-2 (5.65)
GPP-2A 8.59
Gemini Avenue
Apollo Drive
Mercury Drive
GPP-16 5.02
GPP-3 5.24
MW-4 5.28
GPP-4 6.84
MW-5 9.06
GPP-5 8.76
RW-4 9.06
RW-3 8.32
GPP-6 6.43
900 Gemini Building
910 Gemini Building
912-930 Gemini Building
RW-5 8.82
Drainage Ditch
HAP-7 3.94
GPP-17 4.31
HAP-8 4.09
SC-1 3.77
MW-3 4.76
MW-1 6.47
GPP-8 5.07
GPP-7 3.24
RW-2 8.03
RW-1 8.02
GPP-9 5.89
GPP-26 4.92
GPP-10 4.29
GPP-14 4.13
GPP-11 4.79
GPP-18 4.07
MW-2 4.11
GPP-12 4.82
GPP-13 4.38
RW-6 4.73
HAP-1 2.06
HAP-2 2.76
HAP-3 2.89
HAP-G 2.44
HAP-9 2.49
SG-2 2.35
HAP-4 2.50
Cow Bayou
HAP-5 2.85
GPP-20 4.33
GPP-21 4.14
GPP-22 5.57
9.0
8.0
7.0
6.0
5.0
4.0
3.0
N
LEGEND
Monitoring well location (Zone A)
Geoprobe or CPT piezometer location (Zone A)
Hand auger piezometer location (Zone A)
Stream gauge location
8.32 Static water level (ft, MSL) measured 3/16/99
(5.26) Value inconsistent with nearby wells, not used in contouring
6.0 Potentiometric surface contour (ft, MSL). Contour interval = 1.0 ft
Groundwater flow direction (Zone A)
Storm sewer
Sanitary sewer
NOTE: Only groundwater monitoring points completed in Zone A are shown. Zone A is a sandy clay unit located within the approximate depth interval of 15 - 20 ft BGS.
SCALE (ft.)
0 50 100
GEOSCIENCE SERVICES, INC.
POTENTIOMETRIC SURFACE CONTOUR MAP, ZONE A AND SURFACE WATER: 3/16/99
SERICEAMERAWP Systems
900/910 Gemini Site, TNRCC VCP No. 632
Houston, Texas
G-2234
Drawn By DLB
Issued 1/21/00
Checked By RJP
Revised —
Approved By JAC
Scale As Shown
FIGURE 3.5



LEGEND

- Monitoring well location (Zone A)
- Geoprobe or CPT piezometer location (Zone A)
- Hand auger piezometer location (Zone A)
- Surface water sample location

- Storm sewer
- Sanitary sewer
- 3.9 — Constituent concentration, mg/L, for the latter of the 8/98, 12/98, and 3/99 sampling events
- —1.0— Constituent concentration isopleth contour, mg/L, for 8/98, 12/98, and 3/99 sampling events

- [ND] — Constituent concentration in surface water, mg/L, for the latter of the 1998 and 3/99 sampling events, not used in contouring
- ND — Not detected
- NS — Not sampled
- (avg.) — Average concentration of sample and duplicate sample

TNRCC MSCs for Class 3 Groundwater (mg/L)

Constituent	Class 3 GW Ind
TCE	0.5
Vinyl Chloride	0.2

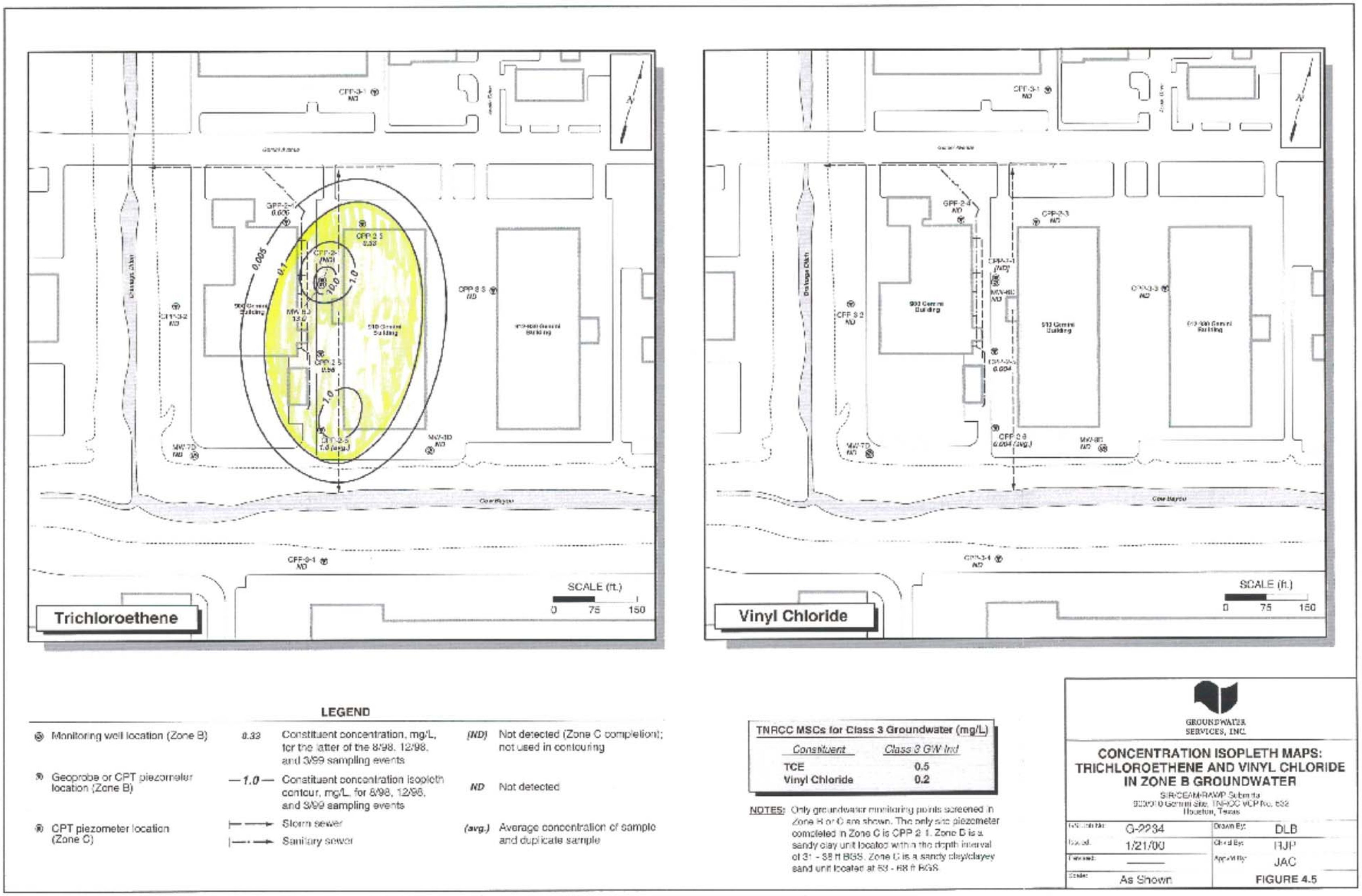
NOTE: Only groundwater monitoring points completed in Zone A are shown. Zone A is a sandy clay unit located within the approximate depth interval of 15 - 20 ft BGS.

GROUNDWATER SERVICES, INC.

CONCENTRATION ISOPLETH MAPS: TRICHLOROETHENE AND VINYL CHLORIDE IN SURFACE WATER AND ZONE A GROUNDWATER

SI/RCEA/VRAWP Submittal
900/910 Gemini Site, TNRCC VCP No. 532
Houston, Texas

GSI Job No:	G-2234	Drawn By:	DLB
Issued:	1/21/00	Ch'k'd By:	RJP
Revised:	———	App'v'd By:	JAC
Scale:	As Shown	FIGURE 4.2	

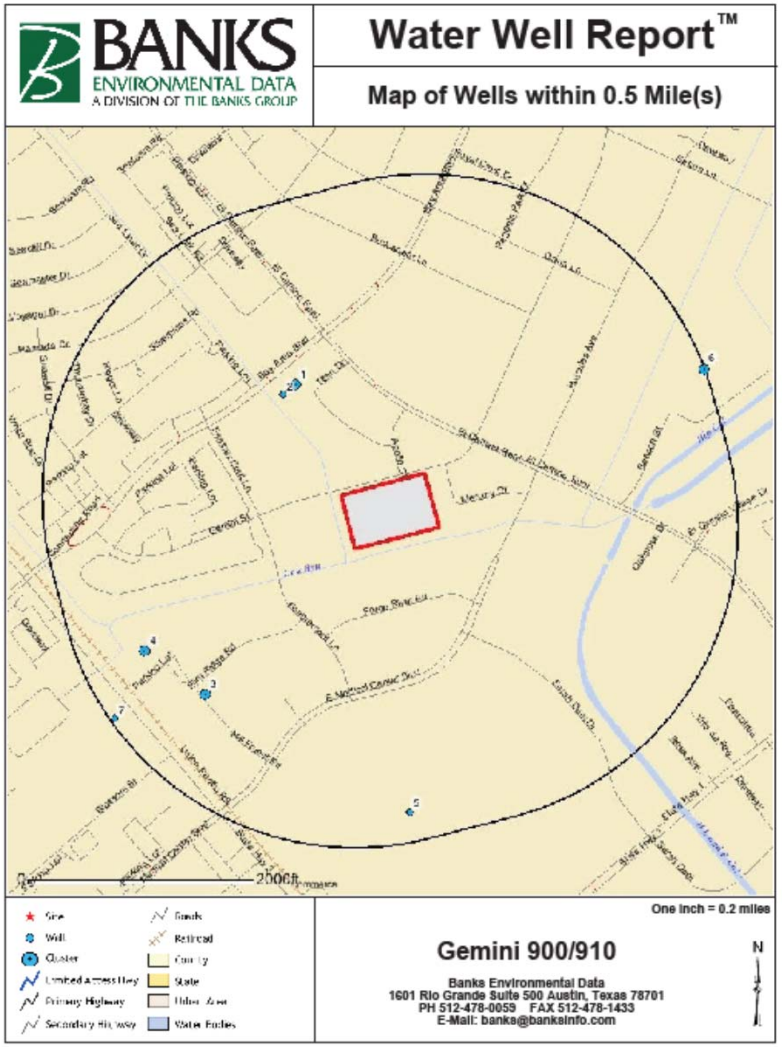

Trichloroethene
Vinyl Chloride
SCALE (ft.)
0 75 150
LEGEND
Monitoring well location (Zone B)
Geoprobe or CPT piezometer location (Zone B)
CPT piezometer location (Zone C)
0.33 Constituent concentration, mg/L, for the latter of the 8/98, 12/98, and 3/99 sampling events
— 1.0 — Constituent concentration isopleth contour, mg/L, for 8/98, 12/98, and 3/99 sampling events
Storm sewer
Sanitary sewer
(ND) Not detected (Zone C completion); not used in contouring
ND Not detected
(avg.) Average concentration of sample and duplicate sample
TNRCC MSCs for Class 3 Groundwater (mg/L)
Constituent Class 3 GW Ind
TCE 0.5
Vinyl Chloride 0.2
NOTES: Only groundwater monitoring points screened in Zone B or C are shown. The only site piezometer completed in Zone C is CPP 2-1. Zone B is a sandy clay unit located within the depth interval of 31 - 38 ft BGS. Zone C is a sandy clay/clayey sand unit located at 53 - 68 ft BGS.
GROUNDWATER SERVICES, INC.
CONCENTRATION ISOPLETH MAPS: TRICHLOROETHENE AND VINYL CHLORIDE IN ZONE B GROUNDWATER
Houston, Texas
G-2234
1/21/00
As Shown
DLB
RJP
JAC
FIGURE 4.5

Water Wells – ½ mile

- 6 public supply wells within ½ mile
- Owned by Clear Lake City
- All wells screened at depths of 651 - 1,050 feet

- 1 domestic well within ½ mile (NASA)
- Well screened at 540 feet

- All wells are in upgradient to cross gradient positions from plume, and i a much deeper aquifer



Summary

- Source of contamination is historic in nature.
- Property is enrolled in the Voluntary Cleanup Program (VCP) under TCEQ oversight
- Affected groundwater is within the upper 40 feet within thin water-bearing zones separated from deeper units by clay layers.
- The groundwater plume has been delineated.
- The affected water is not used. Local wells are at depths >500 feet and are not threatened.
- Site satisfies the State criteria for an MSD.

What Happens Now

- Seek support from City
- Seek support from local municipalities (0.5 mile)
- Applicant will independently seek support from RPUs within 5 miles
- MSD approval by TCEQ
- Site must meet all technical requirements of closure from TCEQ through the VCP.

MSDs Approved in Houston Area